Society Reports.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, held at the New York Academy of Medicine, Tuesday evening, December 5th, 1893.

Dr. M. ALLEN STARR, President, in the Chair.

Dr. L. STIEGLITZ presented a patient, a young man aged twenty-four years, who three years ago developed a swelling in the right sub-maxillary region. This disappeared in about three weeks and was replaced by atrophic tissue, a scleroderma. About six months ago the patient began to suffer from spasmodic contractions of the right masseter and platysma muscles, which still continue. The speaker said he did not believe that the scleroderma and the spasmodic muscular contractions were due to a common cause, although that is possible. He is rather inclined to think that the contractions are due to reflex irritation.

GLIO-SARCOMA OF THE BASAL GANGLIA.

Dr. FREDERICK PETERSON presented this specimen. The case was that of a man aged fifty years, who had been in excellent health, with the exception of occasional attacks of vertigo and slight headaches, until June 8th, 1893, when he fell to the floor in his office. He had a general convulsion and was unconscious ten hours. In two weeks he was well enough to return to his office from his home in New Jersey, and to continue at work for five days, when headache and malaise kept him at home. Four weeks after his first convulsion he had five or six more of short duration and rather left-sided in character. At this time he presented the following symptoms: Left hemiparesis and hemianæsthesia; left hemianopsia; tendency to somnolence; pupils equal and small; sometimes delirious; great frontal headache; pulse 52° to 60° per minute; respirations slow; slight optic neuritis. The diagnosis of sarcoma or glioma situated deep in the brain, so as to affect the posterior limb of the right internal capsule was made. An operation was out of the question. The man was unconscious during the last three days of life. At the autopsy, made just five months after the first apparant onset of symptoms, a glio-sarcoma was found, about two inches in diameter, occupying the region of the basal ganglia, especially posteriorly, and projecting upwards into the right lateral ventricle, and downwards somewhat into the right crus. It was not strictly demarcated, and there was some infiltration into the white matter of the brain, with here and there some areas of softened brain tissue. A secondary tumor, the size of an almond, was found attached to the dura mater on the right side, compressing the cortex in the region of the angular gyrus.

A CASE OF INFANTILE CEREBRAL SPASTIC DIPLEGIA.

Dr. PETERSON also presented the fresh brain in this case. The patient was a female infant, aged twenty months, with congenital diplegia; that is, spastic paralysis of all four extremities. The child was subject to convulsions, had enormously exaggerated knee-jerks and ankle-clonus. Its head was exceedingly small. At the autopsy the skull bones were found to be considerably thickened and all the sutures and fontanelles closed and united. The dura was very thick. There was no increased amount of sub-dural fluid. Over each hemisphere a large group of convolutions, including especially the motor area, were found wanting. The vacuum caused by this atrophy was filled partly by sub-dural fluid and partly by the bulging of each ventricle; there was no internal hydrocephalus. There was no communication between the ventricles and the exterior of the hemispheres. A microscopical examination of the spinal cord showed degeneration and atrophy in the lateral columns.

CHRONIC HYDROCEPHALUS WITHOUT A CEREBRUM.

This specimen was also presented by Dr. PETERSON. The case was one of a female infant, aged eighteen months. Little could be learned of its early history. It had a large head with widely gaping fontanelles. The child was blind and had nystagmus. There was rigidity of all four extremities, occasional convulsions (the convulsions, Dr. Peterson said, he had not personally observed), and toward the last, opisthotonus. The child often cried out at night. Speaking to or moving it caused it to cry out. The pulse was rapid and feeble. Lungs normal. The urine contained a slight trace of albumin. No trouble with the bladder or rectal sphincters. The child could not nurse and was fed with a dropper. It died suddenly in a convulsion. The temperature never rose above 98 F. while it was under observation. Toward the last it vomited occasionally after feeding. At the autopsy sixty-four ounces of reddish serum was first removed by tapping at the anterior fontanelle. The skull was very thin. Also the dura. The falx cerebri had disappeared. At the base of the brain there stood out prominently the basal ganglia and the floors of the lateral ventricles widely open. The cerebellum appeared to be of normal size. There was a mere vestige of each hemisphere. There was degeneration and atrophy of the lateral columns of the cord.

A CASE OF SUBACUTE UNILATERAL BULBAR PALSY, WITH AUTOPSY.

By Dr. Alfred Wiener. The patient was a young man aged seventeen years. Family history negative with respect to any hereditary nervous trouble. Patient has always been in good health up to two years ago, when he was taken down with a severe attack of perityphlitis, from which he recovered after five weeks of illness. About two years ago last spring the glands on both side of his neck in the region of the stern-cleido-mastoid muscles began to enlarge. In the summer of the following year, 1892, an abcess formed in one of these glands and had to be opened. In August, 1892, the glands on the right side, together with a large portion of the sterno-cleido-mastoid muscle were excised at Mt. Sinai Hospital. A second operation was performed the following month, and the glands on the left side were removed. These were found to be of tubercular nature. The patient rapidly recovered, and nothing was noticed in the way of any disturbance of the parts which might have been involved in the operation. In November, 1892, it was discovered that the patient's tongue deviated to the right side, and shortly after this he experienced some difficulty in swallowing. He soon became hoarse and coughed with difficulty, and within a space of ten days the patient developed a complete unilateral palsy of the right side of his tongue, soft palate, pharynx and right recurrent laryngeal nerve. There was no disturbance of his respiratory or cardiac organs, or other condition present which should have called attention to an affection of any other cranial or spinal nerves excepting the ninth, tenth, eleventh and twelfth. The symptoms remained stationary for a time; then the patient began to grow very much weaker, and suddenly, on March 26, 1893, he had an attack of respiratory failure. From this he partially recovered, and then continued in a condition of slight respiratory difficulty. He could hardly speak above a whisper. He had excessive salivation. On April 11th he could barely protrude his tongue beyond the edge of his teeth. His lips remained normal and could be brought into perfect apposition. The palate and pharynx remained normal on the left side. On April 20th he had another attack of respiratory failure which proved fatal.

The autopsy, made six hours after death, revealed that the motor cortex, internal capsule, crura cerebri and pons were normal. The nucleus of the twelfth nerve on the right side was much diseased, while on the left side it was diseased to a slight degree. The nuclei of the ninth, tenth and eleventh nerves were slightly affected, a little more on the right side than on the left. The respiratory bundle appeared completely degenerated on the right side, while on the left, in the region of the hypoglossal nucleus, its lower and anterior portions were diseased. In the region of the ninth nerve a few fibres were affected. The intramedullary rests of the ninth, vagus and vago-accessorium and hypoglossal nerves were less prominent on the right side than on the left. Otherwise, everything appeared to be perfectly natural up to the exit of the first cervical nerve in the spinal cord. As regards the nature of the lesion, no tubercle was found, as expected, nor were tubercle bacilli found on microscopical examination. There was simply an atrophy of the ganglion cells and fibres motor in function.

From a careful consideration of the preceding case and autopsy, Dr. Wiener drew the following conclusions:

1. That the region of the hypoglossal nucleus gives origin to nerve fibres which supply the tongue, palate, pharynx and larynx on one side of the body.

2. The column of nerve fibres known as the respiratory bundle consists of fibres from the glosso-pharyngeal, vagus and vago-accessorium nerves, and the lower and anterior portion of this column probably serves as the locality for the vagus and vago-accessorium fibres.

3. That the glosso-pharyngeal nerve seems to control the reflexes of nausea and gagging in the soft palate and pharynx, and also to send some of the motor filaments to the pharyngeal muscles. These latter filaments take their origin in the hypoglossal nucleus, and ascend in the respiratory column to the nucleus proper and then make their exit with the glosso-pharyngeal nerve.

4. That the soft palate muscles are not innervated by fibres from the seventh nerve.

THE PONS-MEDULLA FLOCCULUS TRIANGLE AS A TUMOR SITE, WITH PATHOLOGICAL FINDINGS.

Dr. ROBERT SAFFORD NEWTON read a paper on this subject, which he illustrated by the following case: Female; aged twenty-eight years. She entered St. Mary's Hospital July 10th, 1893, complaintng of a constant headache for a fortnight, with morning vomiting and sickness for seven days. No history of any trauma; no specific history; family history negative. Two days after admission she was examined, and apart from a silly manner and a slight drawling in her speech she presented no symptoms. On July 20th the patient became weak and fell to the floor in walking.

She muttered to herself during the night and moaned about her head. The pain appeared to be diffuse. She was dull and stupid; her speech was prolonged and tedious. She kept asking, "What did you say?" as though she did not hear well. There was no defect of the cranial nerves. Pulse, 45° per minute. She had a shuffling walk with some tendency to go to the right. The superficial reflexes were present. The knee-jerk was increasing on the right side. On July 22d the patient became quite deaf. The headache was very violent, keeping her awake. July 24th: patient very feeble; deafness marked, especially in the left ear; no tenderness nor discharge. The patient stated that she could not see well, but the opthalmoscope showed no marked lesions. Upon standing, she is projected to the right very forcibly. The movement is at each trial accompanied by a look fear, paling of the face, dilatation of the pupils and bathing of the surface in cold perspiration.

From this time on the patient failed rapidly. The sight became worse; the patient grew petulent and childish; her appetite remained fairly good. Nystagmus was present for one day only. The external rectus was also temporarily affected. She had a transient facial tic. The sense of smell was present to the last. Optic neuritis first appeared in the right eye, then in the left, and rapidly went on into total blindness. She also became totally deaf. Her taste sense was not appreciably affected, although she occasionally complained of a hot scalding feeling in the back of the tongue and palate. Her pulse was slow from the beginning; towards the last it dropped as low as ten, twelve and fourteen beats to the minute, and three days before her death it dropped to six beats per minute. There was no anæsthesia, nor implication of the pain, temperature, tactile or muscular senses. She never had any convulsive seizures or paralytic attacks. The weakness steadily progressed; there was loss of control of the sphincters; the respirations became slow and gradually ceased. Just before her death she was still able to distinguish between whiskey and milk.

The autopsy was made ten hours after death. Upon removing the brain, an enormous tumor with a central projection was found on the left side. The swelling was somewhat triangular; its apex was under the thalamus and geniculate body, its base crowding the cerebellum off from the medulla, and its side line not quite reaching the middle of the pons. In the central pons region was a projecting mass, shaped like a thumb. The bulk of the growth was a cyst. The left half of the pons was much softened, and the medulla and cerebellum were flattened.

The olfactory nerve was intact. The optic nerve was swollen on the left side. The third and fourth nerves were intact. The fifth and sixth also seem to have remained unchanged. The seventh nerve was on one side of the tumor; the eighth on the other. The nuclei of the ninth, tenth and eleventh nerves were pushed aside by the change in position of the flow of the medulla. The nucleus of the twelfth nerve was entangled in the growth. The cyst began at the margin of the fourth ventricle, by a blocking of the channel of communication between the lateral cisternæ of the ventricle and the cavity of the arachnoid. Just at the commencement of the fourth ventricle is an opening through the velum medullare posticum, which leads from the outside into the ventricular cavity the foramen of Magendie. Through this the fluid in the ventricles communicates with that which lies outside. The importance of this location by the side of the medulla and partly covered by the flocculus will be appreciated when we remember that the entire communication of the subarachnoid spaces of the spinal cord below with the ventricles of the brain above is by means of this foramen of Magendie, an opening into the lower part of the fourth ventricle, through the pial expansion of the tela choroidea inferior, which covers the ventricle, and through the apertures of the lateral cisternæ, one on each side behind the upper roots of the glosso-pharyngeal nerve, in the pouch-like extension of the membrane beneath the flocculus.

These spaces or reservoirs of the sub-arachnoid fluid have been studied by a number of authors, yet no special importance seems to have been attached to this locality. In examining the floor of the fourth ventricle it will be seen that at its broadest part there exists an elongation on each side known as the lateral cisternæ; these are in communication with the subarachnoid spaces on each side and are in intimate relationship with the flocculus, glosso-pharyngeal, vagi, facial and auditory nerves. Hence these openings through the medulla may be the site of several pathological changes, as follows:

1. By means of the choroid plexus, cystic growths and deposits of carbonate or phosphate of lime; the so-called brain sand or psammoma.
2. Tortuosities and changes in the choroids lead to dilatation and enlarged villi.
3. Tumor growths consisting largely of fibrous elements.

A careful study of this region will show how easily a cystic growth can be developed there, and what an enormous size it may attain and what numerous tissues and parts may be invaded without necessarily giving rise to any localized symptoms.

SYRINGO-MYELIA; CENTRAL GLIOMA OF THE SPINAL CORD, WITH SPONTANEOUS CENTRAL HEMORRHAGE.

Dr. CHARLES L. DANA read a paper on this subject, and narrated the history of the following case: The patient was a man who had a central gliomatous tumor in the lower part of the dorsal region of the spinal cord. This tumor progressed slowly for two or three years, causing during that time the symptoms of a transverse myslitis chiefly, although the presence of a spinal tumor was suspected. Among other symptoms there was anæsthesia of the right leg extending up to the twelfth dorsal spine, and involving touch, temperature and pain sensations. Anæsthesia involved to a lesser extent the left leg. Just before the man's death a large hemorrhage occurred which was confined to the centre of the spinal cord and which caused exquisite pain, the man, in fact, dying from exhaustion. Upon post-mortem examination a large central hemorrhage, destroying nearly every particle of the spinal cord at the level of the seventh dorsal segment, was found. This hemorrhage extended up and down for a distance of about three inches. Around the hemorrhage and above it were evidences of a gliomatous infiltration involving nearly the whole of the transverse area of the cord at that level. Very striking secondary degenerations, ascending and descending, were found. The case was one of glioma of the spinal cord, without there being any cavity formed. Although clinically, and in one sense pathologically it would be a case of syringo-myelia, yet that name cannot strictly be applied to it.

In commenting on this case, Dr. Dana referred to the question of the existence or the non-existence of a pain tract, and the advisability of our searching for it. The psychologists seem to have come to the conclusion that pain is not a sensation, but a form of feeling; that it is not to be classed with the sensations of touch or temperature or heat; that it does not have peripheral end organs, and that there are no nerves in existence which on irritation alone produce pain; that there is no such thing as a pain tract; that in attempting to locate such a tract we are pursuing a will-o-wisp. Dr. Dana said that after a very careful study of this question, he has been converted to the psychologists' view of the matter. If we claim that there is a special tract for pain, we can just as well claim that there is one for hunger and various other sensations. If there is a special tract for any of the common subjective sensations, there must be a special tract for all.

Dr. B. SACHS said that in former days he held to the view that pain was nothing more than an intensification of the ordinary tactile sense, and in the majority of cases we meet with such an explanation would hold good, and under such condition we would not look for any special pain tracts. The clinical facts that have been brought out with regard to syringo-myelia, however, do not bear that theory. Touch and temperature sense may remain normal, whereas the pain sense is entirely lost. The psychologists' view of this question is one that is rather difficult to reconcile with the clinical facts we have obtained from syringo-myelia. On the other hand, this disease is very destructive and irregular in its course, and for this reason is rather an unsafe guide for us to go by in trying to determine physiological functions.

Dr. C. A. HERTER said that several years ago he hemisected the spinal cord of a monkey in the mid-dorsal region ; he was unable to find in that case any evidence of a loss of sensibility to pain either on the same side as the lesion, or on the opposite side. He also performed this experiment on an opossum with a like result. Mott, in his experiments, cut the antero-lateral ascending tract and was unable to find any evidence of loss of sensibility to pain. The results of experiments on animals, of course, cannot be applied directly to man. The subject brought up by Dr. Dana is an interesting one, and up to the present time we have not enough cases on hand to base any definite conclusions upon.

Dr. LANDON CARTER GRAY said that in our present state of knowledge as regards the exact functions of the various columns of the cord—the columns of Burdach and of Goll, and the so-called column of Gowers—and the uncertainty that exists as to the exact demarcation of the latter, we can arrive at no definite conclusions as to the location of the pain tract. So far as clinical evidence goes, there certainly is such a thing as a pain sense. In hysteria the tactile sense may be preserved, while the pain sense is entirely absent.

Dr. STARR said we must admit the existence of pain sensations and of a centripetal pain tract. That tract must necessarily go in through the posterior nerve roots, because we have painful sensations of a hallucinatory character in locomotor ataxia. It must extend for a distance in the central gray matter of the cord. We have now on record over seventy cases of syringo-myelia, with autopsies. In those cases there is a decided loss of pain in a certain limb. If the affected limb is an arm, then the cavity in the cord is in the cervical region, and the pain sense is preserved in the body and legs. Therefore, these sensations, though they may pass for a little distance in the central gray matter of the cord, afterward pass into the white columns. The central grey matter contains numerous cells, each of which sends its fibres into the antero-lateral columns, and these pass upwards. While it is by no means positive that the antero-lateral columns transmit sensation of pain, all the facts seem to point to the correctness of that theory. Dr. Starr said that the column of Lissauer, which one of the speakers referred to, could have nothing to do with the transmission of pain sensations. It consists only of short fibres, does not increase in size from below upward, and cannot transmit impulses upwards for any great distance. The sense of hunger is by no means analogous to the sense of pain, as Dr. Dana intimated. We must distinguish between a common sensation and a special sensation. In conclusion, Dr. Starr referred to a case reported by Edinger, with autopsy, in which the lesion was found in the parietal region on one side, and in which the symptoms were chiefly those of intense pain radiating in the opposite side of the body. Edinger described it as a case of central lesion, with sense of pain.

Dr. DANA then closed the discussion. He said that his views regarding the non-existence of a pain tract were only arrived at after a long and thorough study of this subject. When we come to mix up pain sense and touch sense add heat sense, etc., we are showing a mental confusion that is unworthy of advanced neurologists. Pain and touch are entirely different. Pain is a subjective or common sensation. Touch is objective. Pain is much more closely allied to hunger than it is to touch. Pain is not a special sensation, but a modification of it. We may have a painful pricked wound, etc., but we do not have a simple sensation of pain. It is always combined with something else. If we can get rid of the idea that we must keep on hunting for a pain tract, it will save much exertion, and many futile experiments on monkeys and men.